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Abstract[***]

The article provides an analysis of some features of the Italian Credit System in the Nineties. In particular, it focuses on a comparison of Banks efficiency – in terms of costs, revenues and profits – in Northern and Southern Italy taking into account the dualistic structure, which characterizes the Italian economic system.

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1. Introduction

The Italian banking system has experienced important changes during the Nineties: the abolition of protective administrative controls, an increasing *laissez-faire* due to a radical change of Italian banking law removing operative and functional constraints, and Italy's membership in the EMU.

This has led to stronger competition, an increasing product diversification and, consequently, to an increase in net income from services and non-financial activities. The abolition of the administrative controls and market competition brought about by financial liberalization and the participation in the European Monetary Union, has oriented the banking system towards a more efficient organization.

The case of the Italian banking system is particularly interesting because of its implications for the funding of productive activities in a dualistic productive system. The major change in the Southern Italy (the so called "Mezzogiorno") credit market was the entrance of external banking groups, which acquired control over a large proportion of Southern banks.

This reallocation of property rights within Southern Italian banking system represents the final step in the deterioration of the Southern financial system that had to face a great environmental risk; clearly shown by the very high level of non-performing loans that, together with managerial problems, seriously compromised the relationship between banks and firms.

These phenomena are also due to the abandonment, in 1992, of the special policy implemented to support through public transfers the Southern Italian economy (the so called "intervento straordinario"). This weakened further an already fragile productive structure with evident negative consequences for Southern banks.

In fact, since the second half of the Eighties, when the process of industrialization carried out by non-local industrial firms had concluded, the development of the Southern regions was mainly depended upon the capacities and activities of small local firms.

This caused a rapid worsening of banks' credit portfolio since 1992. The main consequence of this was a significant increase in interest rates paid by well performing firms. In fact, this was the only way banks were able to meet the cost of an increasing number of bad loans to poor performing firms.

The object of this paper is to analyse efficiency patterns of the Italian Banking System in the Nineties taking into account the dualistic development of the Italian economy. However, cross-region efficiency comparisons have to take into account the potential differences arising from region-specific aspects which may affect banking activity.

This paper will analyse cost, revenue and profit efficiency frontiers estimated with parametric methodologies. First, the main aspects of the Italian banking system of the last years and their implication for a dualistic economic structure are discussed. Then, some aspects of the literature about the measures of efficiency, its components, estimation models and the criteria for the construction of variables will be presented. In the fourth section the estimation results will be provided according to the dimensional and territorial structure of the sample. Some concluding remarks will be provided.

2. Reorganization of the Southern Italy credit market and productive structure

In order to analyse the reorganization processes of the Southern Italian credit market in the last decade, it is necessary to consider the dualistic character of the Italian economic structure. Moreover, it is important to remember that those phenomena took place at a crucial time for the Mezzogiorno economy as a consequence of the abolition of the special policy of intervention based on public transfers, which exposed local firms to national and international competition.

Special incentives were revoked in 1992 and the fiscal retrenchment imposed by the public finance constraints due to fiscal imbalances made subsidy policies more difficult.

Restrictive fiscal policies and especially the dramatic reduction of public transfers strongly influenced the Southern economy. The policy of helping firms to pay social security contributions by means of tax relief should also have been abandoned, following the repeated reprimenda of the European Union. Real income per capita in the South was 56.8% of the average of the rest of the country in 1980. The ratio increased to 59.8% between 1983 and 1992. The Southern economy has performed rather badly since then, due both to the adverse economic cycle and the reduction of government transfers. The rate of growth of GDP in the Mezzogiorno was only 0.6% between 1992-1999, less than one third of the growth rate in the rest of Italy. Gross investment decreased at a yearly rate of 2.4%, compared to an average annual increase of 1.6% elsewhere. Population growth, on the other hand, was considerably higher in the South, so that the per capita GDP fell further to 58.2% in 2002, just as it was in the Sixties.

Those phenomena strongly influenced the productive structure; firms had to face increasing competition and, especially in more recent years, the difficult conditions of the credit market. As regards the credit market, it has been characterised by a rapid deterioration in the credit portfolio since 1992, which caused too high interest rates for firms with a better performance. In fact, banks were only able to recover the increasing cost of bad loans from firms in trouble from profitable firms. The Southern banks are, hence, strongly conditioned by the increased risk due to the higher percentage of bad loans with respect to total loans. It is easy to observe the increase in the ratio of bad loans on total loans: during the period 1996-1999 it reached 22.5% compared to a national average of 7% in the same years.

The tendency for a gap between interest rates on loans in the two macro-regions is directly related to the deterioration of credit quality and the problematic relationship with the productive system that strongly influences the Southern banks' balance sheets: in 1999 the gap between Southern and Northern short-term interest rates was 1.65%.

The crisis in Southern local firms produced a weakening of the local credit market strongly deputed to support the activity and development of small local firms. The model of financial supervision authority acts in the same negative direction. The Gearing and Cooke Ratios impose more and more pressing operative constraints when the bad loans percentage on total assets increases. The new criteria adopted by the Bank of Italy as a guarantee of the stability of credit system in application of EU Directive 89/647 strongly limited the capability of the Southern banks, burdened with the severe weight of non performing loans, to increase their operative dimensions and diversify their product mix[1].

[1] For the analysis of the effects of the new supervision's model on the development and the Southern credit system see Giannola and Lopes (1996), Imbriani and Lopes (1999).

Moreover, because of the scarcely developed and not quite dynamic area in which the Southern banks operate, it was impossible for them to gain efficiency by enlarging and improving the quality of the services supplied. In addition to this, the loans/deposits ratio dynamics shows the difficulties that Southern banks had in finding suitable occasions to develop their intermediation activity. In fact, examining the 1990-2000 period, Southern Italy experienced an annual growth rate for deposits similar to the national one, while the amount of loans granted decreased by 18.6% from 1990 until 2000. Other indicators confirming these difficulties are the loans and deposits ratio of resident customers to the respective regional GDP. Regarding to the loans, at the end of 1999 the ratio to regional GDP was 84.5% in the North and 48.6% in the South; for the deposits the same ratios were 55.1% in the North and 44.4% in the South. It must be recalled that the propensity to save does not appear to vary across regions. Hence, savings flee from the South to the Central and Northern areas that are perceived to be safer and more remunerative. Thus lack of financial resources in the Southern areas thus is not due to inadequate savings, but rather to the inability of banks to properly channel financial towards the productive sectors. Another typical aspect of the Southern credit system is the poor dissemination of new financial instruments among resident households even if households with the same wealth endowment are compared.

In 1999 securities and investment funds were only 4.5% of financial wealth in Southern Italy compared to the 18.6% in the North and 10.9% for Central Italy. Almost the same was observed for equities whose incidence on financial wealth was 3.1% in the South versus 11,.6% in the North and 6.2% in the Centre. Regarding savings in portfolio management services and foreign securities, their presence among the Southern savers is still negligible.

This indicates a further difficulty for local banks in following productive diversification strategies in the South as compared to those adopted by non-local banks in the rest of the country.

The analysis of the incidence of the ratio of net revenues from services to the intermediation margin reveals that in 1999 this was only 14.7% for Southern banks compared to 23.3% for Northern and 16.2% for banks in Central Italy.

Higher incidences of operative costs on intermediation funds and the progressive reduction of interest spread, due directly to increasing competitive pressure for funds collection, have hampered suitable standards of competition. It has been confirmed that Southern savings do not find suitable local employment and, for this reason, in accordance with a consistent managerial logic, they finance more profitable and less risky areas.

During the second half of Nineties there was a progressive deterioration in Southern banks profitability. In this context, the expansion of loans and other financial services both to households and firms is clearly problematic. This pattern – as already stressed above – is not due to a lack of funds but to the higher risk associated with increasing loans to local firms.

All these phenomena evidently eased property reallocation processes consisting most of all in the acquisition of Southern banks by non-local banks. This process took place at the end of the nineties – since 1998 – and by the beginning of the new decade only 27% of the total branches located in the Southern Italy were controlled by Southern Banks. The increasing acquisitions of local banks by outside banks makes the problem of local financing even more severe[2].

Looking at the market share, it can be observed that in Southern Italy the non-Southern banks market share rose from 38% in 1990 to 47% in 1999. At the same time, the Southern banks market share in this area fell from 62% to 52% over the same years. Finally, the market share of Southern banks in the rest of Italy – which was only 3% in

[2] See Imbriani (1996), Imbriani and Lopes (2002), Lopes and Netti (2002).

1990 – decreased to 2% at the end of the decade. These meaningful changes in the credit market are mainly related – as stressed above – to the acquisition or to the merger of local Southern banks whose financial situation had deteriorated from the adverse economic conditions of the Southern economy. This framework is crucial in order to evaluate more deeply the efficiency performance of the Italian banking system.

3. Efficiency analysis by means of parametric frontiers

Revenue, cost and profit efficiency

According to economic theory, the technical efficiency of a single firm can be measured comparing the observed output with the maximum amount that could be obtained by using the same input bundle. Alternatively, it is possible to compare the observed cost for the production of a given level of output with the minimum cost which could be paid for the same output (Forsund et al. 1980).

Technical efficiency analysis is based on the comparison – given an observed efficient frontier – of each firm with respect to the best practice firm and then assigning an efficiency score ranging from 0 to 1. In other words, this score is a measure of the distance of each firm from the efficient frontier (Farrel, 1957).

The methodologies most frequently used to construct the production frontier are based on the specification of a production function estimated by using econometric techniques; an alternative approach is based on non-parametric techniques of linear programming[3]. In this paper the parametric approach is used. Econometric techniques, although negatively affected by specification problems of production function, allow a more rigorous distinction between inefficiency residuals and error terms by using statistical inference tests; in addition, it is possible to test the model goodness of fitting data and to perform several specification tests. Such analysis is not feasible trough a non-parametric approach.

More recent literature constructed other efficiency measures not only related to technology, but also related to inputs allocation. In this case, a cost frontier specification can be considered. Under this specification, the observed cost expanded in producing a particular bundle of output is compared to the minimum cost necessary for the production of the same bundle. In this case, the cost frontier is formulated by estimating a cost function, which relates observed cost to output quantities and input prices, allowing random error and inefficiency.

(1) $$C = C\ (y, w, u_c, v_c)$$

[3] For a review of these topics see Coelli et al. (1999).

where C is a measure of costs, y is a vector of output quantities, w is a vector of input prices, u_c is a measure of cost inefficiency, and v_c denotes a random error which may be caused by measurement errors, and/or by exogenous shocks experienced by the firm which may, for these reasons, expand costs to a level higher then the minimum.

Further efficiency measures are related to the revenues and the profits.

In considering the revenue efficiency, it is necessary to measure how effectively a single firm sells its output, given output and input prices; in other words, two firms with identical costs, input and output bundles may have different efficiency scores if one of the two firms generates higher revenues because of a superior product quality or more effective marketing strategies.

$$R = R(w, p, u_R, v_R) \tag{2}$$

where R is a firm's revenue, w and p are, respectively input and output prices, u_R is the inefficiency factor and represents how much these revenues are enhanced by efficient production, v_R denotes a random error which may be caused by measurement errors, and/or by exogenous shocks experimented by the firm which may, for these reasons, enhance revenues different from the maximum.

The revenue functions may allow a more complete interpretation of a firm's efficiency compared with the efficiency results obtained by using only cost function. For example, let us assume that a firm decided to maximize output quality and that, in order to reach this target, it was expanding costs above the minimum level. The firm's efficiency evaluation based only on cost function would be misleading because high quality firms would be penalized with respect to other firms adopting only a cost reduction strategy.

Profit efficiency combines both costs and revenues in the measurement of efficiency. The standard profit frontier relates profits to the prices of inputs and outputs. The observed profit generated by a particular combination of inputs and outputs is compared with the maximum possible profit generated by the same input-output mix.

By computing profit efficiency we are able to detect how cheaply a single firm is able to produce output and how effectively it sells it on the market given input and output prices.

$$\Pi = \Pi(w, p, u_\Pi, v_\Pi) \tag{3}$$

where Π is firm profit, u_Π is a measure of profit inefficiency, and v_Π denotes a random error which may be caused by measurement errors, and/or by exogenous shocks experienced by the firm which may, for these reasons, make profit different from the maximum.

An alternative approach to estimate revenue and profit frontiers has been proposed in a more recent study[4] in which output prices are not included, but output level is considered as an explanatory variable.

In other words, the alternative specifications for revenue and cost functions are the following:

$$R = R(w, y, u_R, v_R) \tag{4}$$

$$\Pi = \Pi(w, y, u_\Pi, v_\Pi) \tag{5}$$

The main reasons for preferring these alternative specifications are the following:

[4] See, for financial sector analyses, Berger and Mester (1997); Humprey and Pulley (1997); Pulley and Humprey (1993).

a) Firms may not be able to control completely the scale of output to reach any desired size; as a consequence, efficiency comparisons based on standard profit and revenue functions, since they do not take into account these size differences over firms, may be misleading. In particular, larger firms may seem more efficient simply because of this size effect. Alternative functions explicitly allow output levels to be taken into account.

b) It is likely that output markets are not perfectly competitive, and so firms have some market power in pricing their outputs. In this case standard functions do not allow differences in output pricing and variations in quality output across firms to be taken into account.

c) If output prices are not accurately measured, then the standard revenue and profit frontier may provide a poor measure of efficiency; in addition, it is impossible to compute prices for bank non-traditional output; for traditional output, prices are computed as ratio of income (py) to quantity (y) where p is the price of output y. For non-traditional output only income information is available; so, without a measure of the quantity of non-traditional output, it is impossible to define a price for this type of output.

Econometric specification

In order to evaluate efficiency, two different econometric estimate methodologies have been used: the stochastic frontier and the distribution free approach (DFA). The three estimated functions – cost, revenue and profit in their alternative versions – include the same set of exogenous variables: input prices[5] (w_1, w_2, w_3), input quantities (x_1 = labour, x_2 = capital, and x_3 = collected funds); output quantities[6] (y_1= deposits, y_2= loans to non financial institutions, y_3 = loans to banks and bonds).

Assuming that in the equations (1), (4) and (5) inefficiency factors and error terms are independent, the specification in logarithmic terms is the following:

(6) $$\ln Z = f(y,w) + \ln u_Z + \ln v_Z$$

where Z corresponds, respectively, to cost, revenue or profit, depending on which frontier is estimated:

(7) $$C = \sum_{K=1}^{3} w_K x_K$$

(8) $$R = \sum_{j=1}^{3} p_j y_j$$

(9) $$\Pi = R - C$$

[5] Labour price has been calculated as ratio of banking staff costs to the average number of banking staff; capital price is given by the ratio of capital cost (depreciation, leases and other administrative expenditures) to bonds, deposits and other lending funds sources (subordinated liabilities and free capital). The collected funds price is calculated dividing the purchased funds cost (interests and fees) by deposits and bonds. Revenues are obtained considering interests and other incomes coming from non-traditional activities; total costs are calculated summing up labour cost, capital cost and purchased funds costs. Finally, total profits are just total revenues less total costs.

[6] We have not considered non traditional activities as a fourth output because it is difficult to make a rigorous distinction between incomes coming from these ones and those coming from traditional activities (Rogers 1998).

Where p is the output prices vector. The usual translog specification for equations (1), (4) and (5) has been chosen. Ignoring individual index for each bank, the model takes the following form:

$$\ln Z = \alpha + \sum_{j=1}^{3} \beta_j \ln y_j + \sum_{K=1}^{3} \gamma_K \ln w_K + 1/2 \sum_{j=1}^{3}\sum_{h=1}^{3} \beta_{jh} \ln y_j \ln y_h + 1/2 \sum_{K=1}^{3}\sum_{L=1}^{3} \gamma_{KL} \ln w_K \ln w_L$$

+

$$+ \sum_{j=1}^{3}\sum_{K=1}^{3} \delta_{jK} \ln y_j \ln w_K + \ln u_Z + \ln v_Z \qquad (10)$$

In order to ensure that the estimated frontier is well behaved, symmetry and linear homogeneity are imposed on model parameters:

$\beta_{jh} = \beta_{hj}$ j, h = 1, 2, 3

$\gamma_{KL} = \gamma_{LK}$ K, L = 1, 2, 3

$\sum_{K=1}^{3} \gamma_K = 1$,

$\sum_{L=1}^{3} \gamma_{KL} = 0$ K = 1, …, 3

$\sum_{K=1}^{3} \delta_{jK} = 0$ j = 1, …, 3.

Then, cost, revenue and profit efficiency are calculated as suggested by Berger and Mester (1997) and Rogers (1998):

$EFFC_i = C^S_{MIN}/C^S_i = [\exp (f^S(w,y))*\exp(\ln u^S_{MIN})] / [\exp (f^S(w,y))*\exp(\ln u^S)]$

$EFFR_i = R_i^S/R^S_{MAX} = [\exp (f^S(w,y))*\exp(\ln u^S_i)] / [\exp (f^S(w,y))*\exp(\ln u^S_{MAX})]$

$EFF\Pi_i = \Pi_i^S/\Pi^S_{MAX} = \{[\exp(f^S(w,y))*\exp(\ln u^S_i)]-\theta\}/\{[\exp(f^S(w,y))*\exp(\ln u^S_{MAX})]- \theta\}$;

Where superscript s denotes estimated values and $\theta = (| \Pi_{MIN} | + 1)$ is the correction proposed by Berger and Mester (1997) for the dependent variable in the profit function in order to obtain the argument of positive natural logarithm in cases of banks making negative profits[7].

In the stochastic frontier approach, making explicit assumption about their distribution disentangles inefficiency and random error components of the composite error term. The random term is assumed to be two-sided – usually normally distributed – and the inefficiency term is assumed to be one-sided. In particular, it is possible to obtain Maximum Likelihood estimates parameters for the stochastic frontier only if the first stage OLS residuals are negatively skewed for cost frontiers and positively skewed for revenue and profit frontiers. If the condition is met, residual and predicted values for the stochastic frontiers model may be computed by using formulas proposed by Jondrow et al. (1982).

Waldamn (1982) has shown that the Maximum Likelihood estimator for the stochastic frontier model is simply OLS for the slopes and for error term variances, while the

[7] Π_{MIN} is the minimum value of observed profits; when θ will be added to the original profit series, bank showing $\Pi = \Pi_{MIN}$ will have a profit equal to one.

inefficiency term variance is zero if the previous condition is not found; in this case the software[8] currently available stops the estimation procedure with an explanatory message. If this condition emerges, the model is probably not well specified or the data are inconsistent with the model. For this reason an alternative approach may be appropriate. In this paper we followed Berger and Mester (1997)[9] adopting the distribution-free approach (DFA).

This approach is possible when panel data are available; in this case these maintained distributional assumptions can be relaxed (Rogers 1998). This method assumes that there is a core or average efficiency for each firm over time. The core inefficiency is distinguished from random error (and any temporary fluctuation in efficiency) by assuming that core inefficiency is persistent over time, while random errors tend to average out over time. In particular, a cost, profit or revenue function is estimated for each period of the panel data set. The residual of each separate regression is composed by both inefficiency (lnu) and random error (lnv), but this random component is assumed to average out over time, so that the average of firm's residuals from all the regressions will be an estimate of the inefficiency term.

According to Berger and Mester (1997), the reasonableness of these assumptions about the error term components depends on the length of the period considered. If the chosen period is too short, the random term might not average out, in which case random error would be attributed to inefficiency. If the chosen period is too long, the firm's core inefficiency becomes less meaningful because of changes in management and other events might not be constant over time. Using data from 1994 until 1998 should balance these concerns.

4. Empirical results

The empirical analysis was carried out by using a 590 banks closed sample, provided by ABI (Italian Bankers Association), for the 1994-1997 period. In addition, ABI provided 1998 data for only 563 banks already included in the previous 1994-1997 data set. Obviously, this figure reflects the fact that since that year the Merger and Acquisition process of Southern banks strongly affected the system.

In table 1 the efficiency scores – measured in percentage points – for the Italian Banking System are shown[10].

[8] The econometric analysis has been carried out using LIMDEP econometric package.
[9] See also Berger (1993), where this methodology was first used for a banking study.
[10] The size classification takes into account total liabilities, then five groups are considered according to the following table.

Groups	Size categories	Total liabilities (billion euro)
1	Large Banks (so-called Maggiori and Grandi)	>8.3
2	Medium Banks (so-called Medie)	8.3 – 2.8
3	Small Banks (so-called Piccole and Minori)	<2.8

Source: Banca d'Italia (1995).

We found that the cost efficiency increases from 1994-1997 to 1998; in addition, cost efficiency falls with increasing bank size: large banks are less cost efficient than medium and small banks. The same pattern is found for profit efficiency. Moreover, we observe a significant improvement in the profit efficiency scores for small and medium banks. Regarding revenue efficiency, we found a reduction of the score over two samples for all banks.

A more detailed analysis is shown in table 2 in which the efficiency scores have been calculated at territorial level dividing sample banks by head office location.

Table 1 - Average efficiency scores for Italian banks

	1994-1997	1998
Size categories	Cost efficiency	(Free distribution)
Large	76.37	75.78
Medium	76.78	78.57
Small	76.89	78.81
Size categories	Revenue efficiency	(Stochastic frontier)
Large	84.55	80.75
Medium	84.12	80.82
Small	84.62	81.11
Size categories	Profit efficiency	(Free distribution)
Large	39.21	41.98
Medium	28.64	37.51
Small	20.95	27.19

Table 2 - Average efficiency scores for Italian banks at regional level

	1994-1997	1998
Location	Cost efficiency	(Free distribution)
Northern and Central Italy	76.85	79.03
Southern Italy	72.94	73.97
Location	Revenue efficiency	(Stochastic frontier)
Northern and Central Italy	84.51	80.90
Southern Italy	83.31	80.31
Location	Profit efficiency	(Free distribution)
Northern and Central Italy	29.63	38.57
Southern Italy	25.34	25.40

In table 2 we note that, in general, Centre-Northern banks are more cost efficient than Southern ones: this pattern does not change over time. Southern banks improve their performance mainly on the cost side but not on the revenue side; the consequence is a negligible improvement in profit efficiency compared with non-Southern banks. This result is consistent with the expansion pattern of Northern banks in the Southern Italy credit market.

In table 3 we have analysed in more detail the efficiency performance of the Southern credit system considering also the bank size. Small Southern banks are more cost efficient than medium and large banks. In addition, they improve over time; on the contrary, large Southern banks show a different pattern. Regarding profit efficiency, small banks realize a significant improvement over time compared with large and medium banks. Finally, looking at revenue efficiency, we observe a substantial reduction in the efficiency score for all categories.

Table 3 - Average efficiency scores for Southern Italy banks

	1994-1997	1998
Size categories	Cost efficiency (Free distribution)	
Large	68.18	67.01
Medium	74.79	78.62
Small	77.40	79.02
Size categories	Revenue efficiency (Stochastic frontier)	
Large	82.35	79.11
Medium	83.89	81.76
Small	84.44	80.97
Size categories	Profit efficiency (Free distribution)	
Large	29.38	25.75
Medium	22.89	18.04
Small	20.93	27.27

These results are consistent with the acquisition process of Southern banks by the Northern ones, which took place at the end of the Nineties. It is reasonable to argue that this reallocation of property rights has reduced in a significant way costs for acquired and controlled banks, but, on the other hand, constrained the potential for the expansion of an autonomous local banking system in the South.

In other words, the competitive strategy of smaller Southern banks acquired by Northern banks seems to be more cost-reduction oriented rather than interested to increase business activity. In addition, the reorganization process in the market and more competition between banks seems to weaken more seriously the potential for larger Southern banks[11].

[11] In fact, the most important Southern Bank, Banco di Napoli, has heavily reduced its activity and finally a big Northern Bank acquired it in 2000.

5. Conclusions

The Italian banking system at the beginning of the Nineties was characterized by a predominant public property: low average dimension, insufficient international projection, a substantial capital inadequacy, and low profitability. The last decade has been characterized by significant institutional changes, which are still to be completed.

The prudential supervisory strategy followed by the Central Bank stimulated the increasing bank capitalization, merger and acquisition processes and an increasing competition related also to Italy joining the European Monetary Union.

The reallocation of property rights has substantially reduced the role of the State as a direct owner in the banking system but this does not mean that its indirect role in controlling a significant share of Italian banks has been reduced. In any case, a significant modernization process took place in the Nineties. The empirical evidence so far provided indicates that during the Nineties the more dynamic Italian banks managed to expand and diversify their activity in Southern Italy, where the deterioration of the economic structure over the same period strongly affected the local banking system.

The increasing competition has stimulated dimensional growth and productive diversification: the econometric analysis shows that larger banks are relatively more profit and revenue efficient but are less cost efficient.

At regional level, we showed that Southern banks are less cost efficient than other Italian banks, especially the larger ones. This result is less significant for smaller banks, which have been deeply affected by acquisition strategies adopted by Centre and Northern Banks in Southern Italy. This phenomenon has positively affected profit efficiency. The revenue efficiency is higher for larger Centre and Northern banks, which expanded significantly their activity in Southern Italy. On the contrary, Southern banks' revenue efficiency is systematically lower for all dimensional categories. In addition, we also found a decreasing pattern over the sample period.

This result may be related to expansion problems faced by smaller banks operating mainly in the local market, which have been heavily affected by credit quality deterioration caused by the adverse macroeconomic context.

The empirical evidence provided indicates that the increasing competition during the Nineties pushed the more dynamic Italian banks to expand and to diversify their activity in Southern Italy where the deterioration of economic structure during the decade also affected the local banking system.

The merger and acquisition processes of local Southern banks by non-local banks certainly, on the one hand, increased their operative efficiency, on the other hand, constrained the potential for an expansion of an autonomous local banking system. The evidence provided in this analysis shows the increasing difficulties for bigger Southern banks in reducing efficiency gaps. It may be important to assess whether this credit system dynamics is consistent with the needs of the Southern economic structure, characterized by small and medium size firms, which are deeply affected by severe environmental constraints and strictly dependent upon banks' resources for their current activities.

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